

## **REMARKS**

As a preliminary matter, Applicants appreciate the Examiner's acknowledgement of allowable subject matter contained in claims 9-16.

Claims 1-4 and 17-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Endo et al. (DE 19639178). Applicants traverse the rejection because the cited references fails to disclose or suggest a coil driving system that includes, among other things, a coil that generates a magnetic field applied to a magneto-optical disk so as to achieve information reproduction therefrom according to a super-resolution technology.

The Office Action cites Endo as teaching a current detection section 42, a comparison section 23, a current control section 46, and an on-off control section defined by elements 451, 25 and 46. However, assuming *arguendo* that all of these elements are taught by Endo, Endo still fails to teach or suggest a coil driving system that has a coil generating a magnetic field that is applied to a magneto-optical disk. Moreover, the magnetic field is not applied to achieve information reproduction therefrom according to a super-resolution technology. Rather, Endo merely teaches a control apparatus for an electric power steering system (see Endo et al. U.S. Patent No. 5,801,504, which is the U.S. counterpart to DE 19639178 hereinafter Endo '504).

In contrast, the present invention calls for a coil having inductance that generates a magnetic field applied to a magneto-optical disk to achieve information reproduction therefrom according to a super-resolution technology. Magnetically induced

super-resolution technology improves recording density by magnetically masking pits that are contiguous to a pit made by a laser spot. The super-resolution technology requires high accuracy in controlling the magnetic field that is applied to the recording medium disk. The present invention, by controlling an off time in a PWM control scheme and a voltage applied to a coil according to an instruction value, is able to accurately control the magnetic field. Thus, a linearity of bias electric current flowing through the coil with respect to a bias current instruction value is improved. Furthermore, the problem of ripple noise is effectively reduced (see Applicants' specification, page 11, lns. 5-15). Since Endo fails to disclose or suggest a system employing super-resolution technology, withdrawal of the §102 and §103 rejections of claims 1-4 and 17-18 is respectfully requested.

In addition to the above, Applicants traverse the §102 and §103 rejection of claims 1-4 and 17-18 because Endo is nonanalogous prior art. MPEP 2141.01(a) teaches that the reference must either be in the field of Applicants' endeavor or, if not, than reasonably pertinent to the particular problem of which the inventor was concerned, citing *In re Oetiker*, 977 F.2d 1443, 1446, 24USPQ2d 1443, 1445(Fed. Cir. 1992). Endo is not in Applicants' field of endeavor, namely a coil driving system of an information storage apparatus using super-resolution technology. Rather, Endo is directed to a control apparatus for an electric power steering system for a vehicle.

Endo is also not reasonably pertinent to the particular problem with which the inventor of the present invention was concerned. An object of the present invention is to provide a coil current control circuit, an information storage apparatus, and a coil current

control method for driving a bias magnetic field application device by employing a coil and the information storage apparatus appropriately even for a small electric current value. The present invention overcomes a problem in which information reproduction cannot be performed properly because a linearity of an actually flowing bias electric current with respect to a current value may not be satisfactory in a PWM control system.

In contrast, Endo '504 discloses as an object providing a control apparatus for an electric power steering system which has improved stability of the feedback control system constituting a motor control system while the steering wheel is returned to a straight running position or initial position (Col. 3, lns. 21-29). Endo '504 is concerned with generation of an oscillating current that will cause noise and interference with the stability of feedback control (Col. 2, lns. 22-25). Endo '504 is not concerned with the problems of the present invention. For these reasons, Applicants respectfully request removal of the German counterpart reference (Endo) as nonanalogous prior art.

Claims 5-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Endo, and further in view of Official Notice. Applicants traverse the rejection for the reasons recited above with respect to the rejection of claims 1-4 and 17-18.

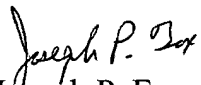
More specifically, since claims 5-8 ultimately depend upon claim 1, they necessarily include all of the features of their associated independent claim plus other additional features. Thus, Applicants submit that the §103 rejections of claims 5-8 have also been overcome for the same reasons mentioned above to overcome the rejections of

independent claim 1. Applicants respectfully request that the §103 rejections of claims 5-8 also be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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